RESEARCH AND DEVELOPMENT, NEUCHATEL - QUARTERLY REPORT

DIVISION	:	RESEARCH
SUBJECT TITLE	:	DEIMOS
PERIOD COVERED	:	April - June 1990
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KEYWORDS	:	ss, single-cigarette, nicotine, water, analysis.

OBJECTIVE

Develop and evaluate the methodology for the single cigarette routine determination of sidestream smoke yields.

STATUS

Equipment

The existing sidestream smoke (SS) collection system based on a four-port Borgwald smoking machine was further equipped with an automatic flow control system.
A MKS 1259 mass flow meter with feed-back flow control was incorporated in each channel. This device has a fast response time and assures an excellent stability and repeatability of the air flow during the smoking run of the cigarette.

Method

In order to perform all nicotine and water analyses by GC in our laboratory, the suitable equipment had been set-up. To validate our procedures, all samples (both MS and SS) obtained from 6 smokings of IM13 monitor cigarettes were simultaneously analyzed by flow injection analysis in the smoking laboratory and by our GC method.
No statistically significant bias was found when comparing the results obtained by both methods, and the precisions were also quite similar.

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Analytical determinations

On request from Product Development, 4 prototypes from project Novelties [1], 4 prototypes from project Niles [2] , 5 prototypes from project Chisel [3] and 4 miscellaneous prototypes [4] were analysed for nicotine, tar and carbon monoxide.
Eleven brands from the Swiss market were analysed [5].

PLANS

Adaptation of the SS collection system to routinely monitor the benzene and toluene yields will be implemented.
Further market survey will be done.

REFERENCES

[1] Memo from Bindler-G. to Braem-D., May 1, 1990.
[2] Memo from Bindler-G. to Gawad-A., June 26, 1990.
[3] Memo from Bindler-G. to Badertscher-T., May 1, 1990.
[4] Memo from Bindler-G. to Braem-D., May 1, 1990.
[5] Memo from Bindler-G. to Fink-W., June 22, 1990.

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